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09/478,682	01/06/2000	ADAM K. KOLAWA	36463/RRT/P3	1994

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EXAMINER

VO, TED T

ART UNIT PAPER NUMBER

2122

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8

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/478,682

Applicant(s)

KOLAWA ET AL.

Examiner

Ted T. Vo

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

**DETAILED ACTION**

1. This action is in response to the communication filed on 05/05/2003.

Claims 1, 2, 7, 10, 11, 14, 19, 27, 32, 33, 37 are amended. Claims 1-37 are pending in the application.

Claims 1-14, 19-27, 32-35, 37, which were previously rejected under 35 U.S.C. 102(e) as being anticipated by Grossman, are now withdrawn. New ground of rejection is applied due to claimed amendment.

Claims 15, 28, 36, which were rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman in view of Beizer, are now applied to a new ground of rejection due to claimed amendment.

Claims 16-18, 29-31, which were rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman, are now applied to a new ground of rejection due to claimed amendment.

***Response to Arguments***

2. Responsive to applicant's arguments over the rejection as being anticipated by Grossman, where applicants amended limitation "*parsing a source code of the computer program to identify functions in the source code; responsive to the identified functions, generating stubs for the source code*".

The amendment, which has changed the scope of the claims, necessitates a new ground of rejection. Applicant's arguments have been considered but are moot in view of the new ground of rejection.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14, 19-27, 32-35, 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Cline et al., (US No. 5,313,616)

As per claim 1:

Cline teaches, *"A method for testing a computer comprising the step of:*

*parsing a source code of the computer program to identified functions in the source code" (see column 16, lines 14-34, 'scans the input source text for procedure calls', and 'make a list of all of the calls by location and target'); responsive to the identified functions, generating stubs for the source code (see column 16, lines 35-40); instrumenting the parsed source code with the generated stubs (see column 16, lines 35-40, and see column 17, lines 56-61); compiling the instrumented code; testing the compiled code; and reporting test results in a GUI (see column 17, lines 56-61)";*

- Cline teaches a method for testing and verifying the conformance of an application program that includes means for identifying procedure calls in the source text (see column 16, lines 14-34; and see figure 14, feature 82). In response to identifying each procedure call encountering in the application program, it generates a stub for the procedure (see figure 14, feature 82), which will be part of an instrumented application program, then executes the instrumented application program to output testing (see column 17, lines 56-61).

As per claim 2:

Regarding claim 2, Cline teaches inherently the claim's step for generating stubs in the teaching of converting the call instructions (column 18, lines 22-26)

As per claim 3:

Regarding claim 3, Cline teaches inherently the claim's specific functions in the teaching of converting call instructions to call stub locations (column 18, lines 22-26).

As per claim 4:

Regarding claim 4, Cline teaches inherently the claim's step for generating stubs automatically in the teaching of using of DBV (column 15, lines 42-49).

As per claim 5:

Regarding claim 5, Cline teaches claim's feature for automatically generating arguments to the functions and automatically initializing class member inherently in the teaching of changing instruction branch (column 18, lines 24-27, lines 42-52).

As per claim 6:

Regarding claim 6, Cline teaches inherently the user-specified functions by showing a user procedure stub of table 6 (column 17).

As per claim 7:

Regarding claim 6, GUI is a part of computer system, Cline teaches inherently the claim in static analysis (see abstract).

As per claim 8:

Regarding claim 8, Cline teaches inherently the claim in the teaching of making a list of all of the calls by location and target (see column 16, lines 35-40, or see figure 5).

As per claim 9:

Regarding claim 9, the Cline's teaching of procedure calls has means of name space, class, function, and objects.

As per claims 10-11:

Regarding claim limitation of claims 10-11, the claims are inherent from the definition of a stub, where a stub is only a routine that is not functionally related to the routine of the source program.

As per claim 12:

Regarding claim 12, Cline teaches inherently the claim in maintaining a list of all of the calls by location and target (see column 16, lines 35-40, or see figure 5).

As per claim 13:

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Regarding claim 13: Cline teaches monitoring test coverage of application programs (see column 2, lines 58-60, and figure 12) in using the SBV (see description of SBV, column 9, started from line 43 to column 11 line 62).

As per claim 14:

Regarding claim 14: Cline discloses the SBV as a tool that has means for testing, monitoring and display (see description of SBV, column 9, started from line 43 to column 11 line 62). SBV has means of providing GUI.

As per claim 19:

Claim 19 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 19 is rejected in the same reason set forth in connecting to the rejection of claim 1.

As per claim 20:

Claim 20 has claimed functionality corresponding to the claimed functionality of claims 8-9. Claim 20 is rejected in the same reason set forth in connecting to the rejections of claims 8-9.

As per claim 21:

Claim 21 has claimed functionality corresponding to the claimed functionality of claim 2. Claim 21 is rejected in the same reason set forth in connecting to the rejection of claim 2.

As per claim 22:

Claim 22 has claimed functionality corresponding to the claimed functionality of claim 3. Claim 22 is rejected in the same reason set forth in connecting to the rejection of claim 3.

As per claim 23:

Claim 23 has claimed functionality corresponding to the claimed functionality of claim 4. Claim 23 is rejected in the same reason set forth in connecting to the rejection of claim 4.

As per claim 24:

Claim 24 has claimed functionality corresponding to the claimed functionality of claim 5. Claim 24 is rejected in the same reason set forth in connecting to the rejection of claim 5.

As per claim 25:

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Claim 25 has claimed functionality corresponding to the claimed functionality of claim 6. Claim 25 is rejected in the same reason set forth in connecting to the rejection of claim 6.

As per claim 26:

Claim 26 has claimed functionality corresponding to the claimed functionality of claim 13. Claim 26 is rejected in the same reason set forth in connecting to the rejection of claim 13.

As per claim 27:

Claim 27 has claimed functionality corresponding to the claimed functionality of claim 14. Claim 27 is rejected in the same reason set forth in connecting to the rejection of claim 14.

As per claim 32:

Claim 32 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 32 is rejected in the same reason set forth in connecting to the rejection of claim 1.

As per claim 33:

Claim 33 has claimed functionality corresponding to the claimed functionality of claim 2. Claim 33 is rejected in the same reason set forth in connecting to the rejection of claim 2.

As per claim 34:

Claim 34 has claimed functionality corresponding to the claimed functionality of claims 8-9. Claim 34 is rejected in the same reason set forth in connecting to the rejection of claims 8-9.

As per claim 35:

Claim 35 has claimed functionality corresponding to the claimed functionality of claim 13. Claim 35 is rejected in the same reason set forth in connecting to the rejection of claim 13.

As per claim 37:

Claim 37 has claimed functionality corresponding to the claimed functionality of claim 1. Claim 37 is rejected in the same reason set forth in connecting to the rejection of claim 1.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless –

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(i) Claims 15, 28, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cline (US No. 5,313,616) in view of Beizer, "Software Testing Techniques", 1986.

As per claim 15:

Regarding to claim limitation of claim 15, Cline teaches program testing in the manner of the claim 1 as specified above by identifying all call instructions in an application program (see column 16, lines 14-34) and generating stubs and compiling the instrumented application program (see column 16, lines 35-40, column 17, lines 56-61).

Cline does not explicitly mention its program testing comprising steps for defining a specific behavior when a procedure within the source code of the program is called by storing defined information; compiling defined information as a separated object; and linking the compiled object to the code (claimed limitation: *'defining a specific behavior when a function within the source code is called; storing the defined information; compiling the defined information as a separated object; and linking the compiled object to the code'*).

Beizer teaches a basic testing technique in software testing. Beizer teaches that a program behavior is complicated and very hard to understand (section 3.4, page 11). Therefore, it requires building a program model independently (*defined information as a separated object*) from the program to represent the program behavior. It teaches running the built model (*compiling and linking*) in order to understand the



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behavior of the program, and thus it can modify the program (see figure 1-1, page 10). The program model is separated from the program and is run for testing.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to include the teaching of generating program model of Beizer, with the program application testing of Cline. Doing so would conform to the testing standard in which it provides a separated behavior model. This standard is used commonly in software testing.

As per claim 28:

Claim 28, which is further limitation of claims 19, has claimed functionality corresponding to the claimed functionality of claim 15. Claim 28 is rejected in the same reason set forth in connecting to the rejection of claim 15.

As per claim 36:

Claim 36, which is further limitation of claims 32, has claimed functionality corresponding to the claimed functionality of claim 15. Claim 36 is rejected in the same reason set forth in connecting to the rejection of claim 15.

(ii) Claims 16-18, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Grossman (US 6,332,213).

As per claims 16-18:

Regarding to claim limitation of claims 16-18, Cline teaches program testing in the manner of the claim 1 as specified above by identifying all call instructions in an application program (see column 16, lines 14-34) and generating stubs and compiling the instrumented application program (see column 16, lines 35-40, column 17, lines 56-61).

Cline does not explicitly mention its program testing comprising white-box test, black-box test, and regression test.

Official notice is taken that White-box test, black-box test and regression test are the well-known testing techniques in the testing art. Each kind of these tests is inherent from functional testing or structure

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testing of the program (Beizer, mentioned herein as a prior of record, views the black-box testing is functional testing; Beizer, page 4, last paragraph; and views the testing as of user objectives).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to include each common testing technique at a point's of interest. Doing so would take advantage of all well-known testing techniques for conforming to standards of functional testing at points' of interest.

As per claims 29-31:

Claims 29-31, which are further limitation of claims 19, have claimed functionality corresponding to the claimed functionality of claims 16-18 respectively. Claims 29-31 are rejected in the same reason set forth in connecting to the rejection of claims 16-18.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Thomas ball**, "Efficient Path Profiling", 1996

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (703) 308-9049. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM ET. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam, can be reached on (703) 305-4552.

The fax phone numbers for this Group are:

Official: (703) 746-7239;

After Final: (703) 746-7238;

Non-Official: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.



**TUAN Q. DAM**  
**PRIMARY EXAMINER**

TTV  
July 11, 2003